



# Proposed 2020 Census Data Products Plan

National Advisory Committee Spring 2019 Meeting

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# Background

- The Census Bureau has a long history of protecting information provided by respondents
- Over the decades, more and more granular census data have been published
- Advances in data science, more powerful computers, and externally accessible ‘big data’ – which contain a lot of personal information – has increased the risk of identifying individuals from published statistics
- To mitigate this risk, the Census Bureau is transitioning to a new disclosure avoidance method called ***differential privacy***

## Background (cont.)

- Our goal for the 2020 Census data products is to meet data user needs while implementing the new disclosure avoidance method - however, there are some challenges
- We currently do not have solutions for protecting tabulations based on complex variables (characteristics of people within households), and variables with many possible values (detailed race/ethnicity)
- We need your help in understanding what the “must-have” tables are both in terms of detail and geography to allow us to focus efforts on researching potential solutions to meet critical needs

# Stakeholder Feedback

- The primary way we collected feedback was through a July 2018 *Federal Register* notice, its extension, and associated outreach
- Approximately 1,200 comments were received
- Comments provided examples detailing legal, programmatic, or statistical needs for specific tables and geographies within the decennial products
- We are using the *Federal Register* comments to inform the development of the proposed suite of 2020 data products

# Examples of *Federal Register* Comments Received

- Sex and age data used by Michigan Department of Education for School Aid and dollars for Michigan's school-aged population are distributed based on the numbers of persons in age cohorts.
- Data on tribes used for creating Annual Community Health Profile and Tribal-specific reports, which are used by Tribal Health Departments, Tribal Epidemiology Centers, Regional Tribal Leaders Council, Tribal Colleges, and Tribal Councils.
- Detailed race/ethnicity data used by the Oregon Health Authority, Program Design & Evaluation Services for REAL+D data collection efforts that solicit more than 60 detailed race and ethnic groups. The REAL+D data collection is mandated by Oregon State Legislature House Bill 2134.
- Detailed race/ethnicity data used to identify ethnicities that qualify for language services covered by Section 203 of Voting Rights Act.

# Overview of the Proposed 2020 Census Data Products Plan

- We are currently proposing to produce the following products for 2020
  - Apportionment Product
  - Redistricting File (P.L. 94-171)
  - Demographic Profile
  - Demographic and Housing Characteristics File (*replaces Summary File 1*)
  - Congressional District Demographic and Housing Characteristics File (*replaces Congressional District Summary File*)
- We are currently unable to produce the following products, but we are internally researching ways we can produce them for 2020
  - Detailed race and Hispanic origin tables and some household tables from Summary File 1
  - Summary File 2
  - American Indian and Alaska Native Summary File
  - Public Use Microdata Sample (PUMS) File
- We are not proposing to produce the following products for 2020
  - Summary of Population and Housing Characteristics (CPH-1)
  - Population and Housing Unit Counts Report Series (CPH-2)

# Apportionment Product

- The Apportionment Product will be the first release of the 2020 Census
- The Apportionment Product will consist of the resident population of the 50 states plus the overseas federal employees (military and civilian) and their dependents living with them, who are included in their home states
- **Release date:** Within 9 months of Census Day (December 31, 2020)

## Proposed updates for 2020:

- No changes

# Example of a table from the 2010 Apportionment Product

Table 1. APPORTIONMENT POPULATION AND NUMBER OF REPRESENTATIVES, BY STATE: 2010 CENSUS

STATE	APPORTIONMENT POPULATION (APRIL 1, 2010)	NUMBER OF APPORTIONED REPRESENTATIVES BASED ON 2010 CENSUS	CHANGE IN SEATS FROM CENSUS 2000 APPORTIONMENT
Alabama	4,802,982	7	0
Alaska	721,523	1	0
Arizona	6,412,700	9	+1
Arkansas	2,926,229	4	0
California	37,341,989	53	0
Colorado	5,044,930	7	0
Connecticut	3,581,628	5	0
Delaware	900,877	1	0
Florida	18,900,773	27	+2
Georgia	9,727,566	14	+1
Hawaii	1,366,862	2	0
Idaho	1,573,499	2	0
Illinois	12,864,380	18	-1
Indiana	6,501,582	9	0
Iowa	3,053,787	4	-1
Kansas	2,863,813	4	0
Kentucky	4,350,606	6	0
Louisiana	4,553,962	6	-1
Maine	1,333,074	2	0

Source: 2010 Census Apportionment, Table 1



# Redistricting File (P.L. 94-171)

Public Law 94-171 directs the Census Bureau to provide data to the governors and legislative leadership in each of the 50 states for redistricting purposes

This product will be the first file released that will include demographic and housing characteristics about detailed geographic areas

- **Subjects will include:**

- Voting age
- Race
- Hispanic or Latino origin
- Occupancy Status
- Group quarters population

- **Lowest level of geography:** Census Block

- **Release date:** Within one year of Census Day (April 1, 2021)

## **Proposed updates for 2020:**

- Add data for the seven major group quarters types, which were previously provided in the 2010 Census Advanced Group Quarters Summary File

# Examples of tables from the 2010 Redistricting File (P.L. 94-171)

## P1. Race

Universe: Total population

	Virginia	Block 1000, Block Group 1, Census Tract 2001.02, Alexandria city, Virginia	Block 1001, Block Group 1, Census Tract 2001.02, Alexandria city, Virginia
Total:	8,001,024	0	658
Population of one race:	7,767,624	0	630
White alone	5,486,852	0	225
Black or African American alone	1,551,399	0	176
American Indian and Alaska Native alone	29,225	0	3
Asian alone	439,890	0	132
Native Hawaiian and Other Pacific Islander alone	5,980	0	0
Some Other Race alone	254,278	0	94
Two or More Races:	233,400	0	28
Population of two races:	214,276	0	27
White; Black or African American	62,204	0	1
White; American Indian and Alaska Native	25,771	0	0
White; Asian	59,051	0	3
White; Native Hawaiian and Other Pacific Islander	2,618	0	1

Source: 2010 Census Redistricting Data  
(Public Law 94-171) Summary File

## P2. Hispanic or Latino and Not Hispanic or Latino by Race

Universe: Total population

	Virginia	Block 1000, Block Group 1, Census Tract 2001.02, Alexandria city, Virginia	Block 1001, Block Group 1, Census Tract 2001.02, Alexandria city, Virginia
Total:	8,001,024	0	658
Hispanic or Latino	631,825	0	180
Not Hispanic or Latino:	7,369,199	0	478
Population of one race:	7,187,530	0	467
White alone	5,186,450	0	159
Black or African American alone	1,523,704	0	172
American Indian and Alaska Native alone	20,679	0	1
Asian alone	436,298	0	132
Native Hawaiian and Other Pacific Islander alone	5,061	0	0
Some Other Race alone	15,338	0	3
Two or More Races:	181,669	0	11
Population of two races:	167,276	0	10
White; Black or African American	57,141	0	1
White; American Indian and Alaska Native	22,487	0	0
White; Asian	56,365	0	3
White; Native Hawaiian and	2,364	0	1

Source: 2010 Census Redistricting Data  
(Public Law 94-171) Summary File

# Demographic Profile

This product will provide critical demographic and housing characteristics about local communities

- **Subjects will include:**
  - 5-year age groups
  - Sex
  - Race
  - Hispanic or Latino origin
  - Household type
  - Relationship to householder
  - Group quarters population
  - Housing occupancy
  - Housing tenure
- **Lowest level of geography:** Place/Minor Civil Division
- **Target release date:** Spring 2021

## **Proposed updates for 2020:**

- Change lowest level of geography from census tract to place/minor civil division

# Examples of tables from the 2010 Demographic Profile

## Sex and Age

Universe: Total population

SEX AND AGE		
Total population	8,001,024	100.0
Under 5 years	509,625	6.4
5 to 9 years	511,849	6.4
10 to 14 years	511,246	6.4
15 to 19 years	550,965	6.9
20 to 24 years	572,091	7.2
25 to 29 years	564,342	7.1
30 to 34 years	526,077	6.6
35 to 39 years	540,063	6.7
40 to 44 years	568,865	7.1
45 to 49 years	621,155	7.8
50 to 54 years	592,845	7.4
55 to 59 years	512,595	6.4
60 to 64 years	442,369	5.5
65 to 69 years	320,302	4.0
70 to 74 years	229,502	2.9
75 to 79 years	173,929	2.2
80 to 84 years	130,801	1.6
85 years and over	122,403	1.5

Source: 2010 Census, Demographic Profile

# Demographic and Housing Characteristics File

- Replaces Summary File 1
- This file will include detailed demographic and housing characteristics and will provide the foundation for later data products
- **Subjects will include:**
  - Detailed age
  - Sex
  - Household type
  - Families
  - Relationship to householder
  - Group quarters population
  - Housing occupancy
  - Housing tenure
  - Some subjects provided for major OMB race/ethnicity groups
- **Lowest level of geography:** Various; some tables available down to the census block
- **Target release date:** Summer 2021

## Unresolved challenges with using the new disclosure avoidance method for 2020:

- Tabulating tables that require the linkage of data from the person and housing records (e.g., characteristics about children in households or about the householder)
- Tabulations of characteristic/item allocation

## Proposed Updates for 2020:

- Remove detailed race and Hispanic origin tables

# Unresolved Challenges – No solution at this time

Example of a Table that Requires the Linkage of Data from the Person and Housing Records

## Household Type by Relationship for the Population Under 18 Years Universe: Population under 18 years

	United States
Total:	74,181,467
In households:	73,920,881
Householder or spouse	37,090
Related child:	72,557,943
Own child:	64,778,147
In husband-wife family	45,442,186
In other family:	19,335,961
In male householder, no wife present family	4,574,483
In female householder, no husband present family	14,761,478
Other relatives:	7,779,796
Grandchild	5,825,229
Other relatives	1,954,567
Nonrelatives	1,325,848
In group quarters:	260,586
Institutionalized population	144,340
Noninstitutionalized population	116,246

Source: 2010 Census, Summary File 1 Table P31

# Unresolved Challenges – No solution at this time

## Examples of detailed race and Hispanic origin tables

### Asian Alone with One Asian Category for Selected Groups

Universe: Total Asian categories tallied for people with one Asian category only and people with no specific Asian category reported

	United States
Total (400-479, 481-499):	14,314,103
Asian Indian (400-401)	2,843,391
Bangladeshi (402)	128,792
Bhutanese (403)	15,290
Burmese (404)	91,085
Cambodian (405-409)	231,616
Chinese (except Taiwanese) (410-411)	3,137,061
Filipino (420-421)	2,555,923
Hmong (422)	247,595
Indonesian (423-429)	63,383
Japanese (430-439)	763,325
Korean (440-441)	1,423,784
Laotian (442)	191,200
Malaysian (443)	16,138
Nepalese (472)	51,907
Pakistani (445)	363,699
Sri Lankan (446)	38,596
Taiwanese (412-419)	196,691
Thai (447-449)	166,620
Vietnamese (450-459)	1,548,449
Other Asian, specified (444, 465, 470-471, 473-479)	20,636
Other Asian, not specified (460-464, 466-469, 481-499)	218,922

Source: 2010 Census, Summary File 1, Table PCT5

### Hispanic or Latino by Specific Origins

Universe: Total population

	United States
Total:	308,745,538 <sup>(r38234)</sup>
Not Hispanic or Latino (001-199, 300-999)	258,267,944
Hispanic or Latino (200-299):	50,477,594
Mexican (210-220)	31,798,258
Puerto Rican (260-269)	4,623,716
Cuban (270-274)	1,785,547
Dominican (275-279)	1,414,703
Central American (excluding Mexican) (221-230):	3,998,280
Costa Rican (221)	126,418
Guatemalan (222)	1,044,209
Honduran (223)	633,401
Nicaraguan (224)	348,202
Panamanian (225)	165,456
Salvadoran (226)	1,648,968
Other Central American (227-230)	31,626
South American (231-249):	2,769,434
Argentinean (231)	224,952
Bolivian (232)	99,210
Chilean (233)	126,810
Colombian (234)	908,734
Ecuadorian (235)	564,631
Paraguayan (236)	20,023
Peruvian (237)	531,358
Uruguayan (238)	56,884
Venezuelan (239)	215,023
Other South American (240-249)	21,809
Other Hispanic or Latino (200-209, 250-259, 280-299):	4,087,656
Spaniard (200-209)	635,253
Spanish (282)	455,157
Spanish American (286)	35,346
All other Hispanic or Latino (250-259, 280-281, 283-285, 287-299)	2,961,900

Source: 2010 Census, Summary File 1, Table PCT11

# Congressional District Demographic and Housing Characteristics File

- Replaces the Congressional District Summary File
- This file will provide a re-tabulation of the Demographic and Housing Characteristics File for the new congressional districts
- **Subjects will include:**
  - Detailed Age
  - Sex
  - Household type
  - Families
  - Relationship to householder
  - Group quarters population
  - Housing occupancy
  - Housing tenure
  - Some subjects provided for major OMB race/ethnicity groups
- **Lowest level of geography:** Census Tracts within Congressional Districts
- **Target release date:** Spring 2023

## Unresolved challenges with using the new disclosure avoidance method for 2020:

- Tabulating tables that require the linkage of data from the person and housing records (e.g., characteristics about children in households or about the householder)
- Tabulations of characteristic/item allocation



# Proposed Additional Data Products

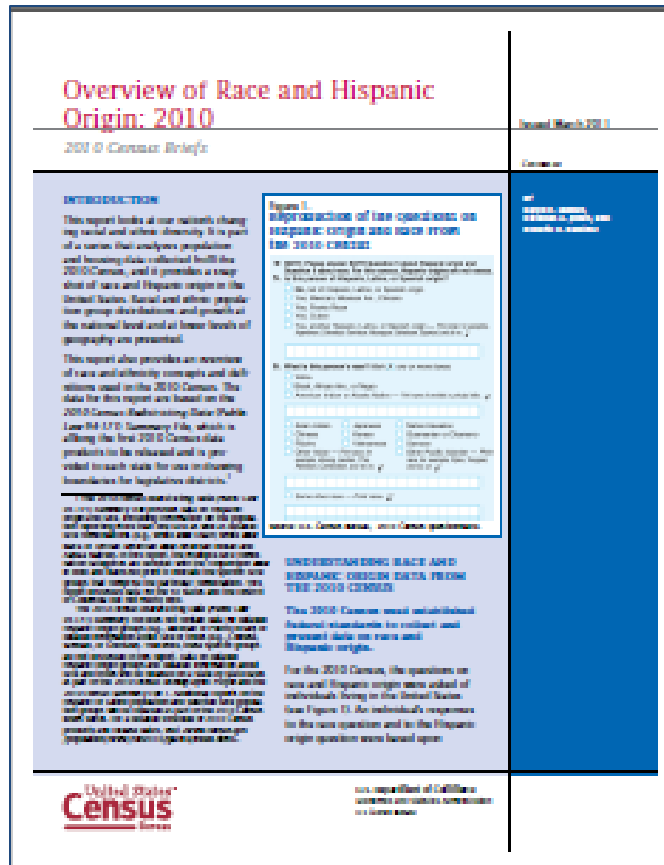
- **Census Briefs**
  - Census briefs will provide summaries of population and housing data, and display data visually through maps, graphs, and figures
  - **Lowest level of geography:** Largest Places
  - **Target release date:** December 2020 – Summer 2023
- **Population and Housing Tables**
  - Population and Housing tables will provide population and housing data, often providing comparisons to the previous census
  - **Lowest level of geography:** Largest Places
  - **Target release date:** Fall 2021 – Spring 2023
- **Special Reports**
  - Special Reports will provide in-depth analyses of population and housing data not available in other data products
  - **Lowest level of geography:** Largest Places
  - **Target release date:** Fall 2022 – Winter 2022

## Proposed updates for 2020:

- Update briefs, tables, and reports to include new content
- Modernize briefs and incorporate new ways to disseminate data

# Examples of 2010 Census Briefs, Population and Housing Tables, and Special Reports

## Overview of Race and Hispanic Origin: 2010



## CPH-T-1. Population Change for Counties in the United States and for Municipios in Puerto Rico: 2000 to 2010

CPH-T-1. Population Change for Counties in the United States and for Municipios in Puerto Rico: 2000 to 2010					
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/p04-171.pdf)					
County name	State name	Population		Change, 2000 to 2010	
		April 1, 2000	April 1, 2010	Number	Percent
Autauga County	Alabama	43,671	54,571	10,900	25.0
Baldwin County	Alabama	140,415	182,265	41,850	29.8
Barbour County	Alabama	29,038	27,457	-1,581	-5.4
Bibb County	Alabama	20,826	22,915	2,089	10.0
Blount County	Alabama	51,024	57,322	6,298	12.3
Bullock County	Alabama	11,714	10,914	-800	-6.8
Butler County	Alabama	21,399	20,947	-452	-2.1
Calhoun County	Alabama	112,249	118,572	6,323	5.6
Chambers County	Alabama	36,583	34,215	-2,368	-6.5
Cherokee County	Alabama	23,988	25,989	2,001	8.3
Chilton County	Alabama	39,593	43,643	4,050	10.2
Choctaw County	Alabama	15,922	13,859	-2,063	-13.0
Clarke County	Alabama	27,867	25,833	-2,034	-7.3
Clay County	Alabama	14,254	13,932	-322	-2.3
Cleburne County	Alabama	14,123	14,972	849	6.0
Coffee County	Alabama	43,615	49,948	6,333	14.5
Colbert County	Alabama	54,984	54,428	-556	-1.0
Conecuh County	Alabama	14,089	13,228	-861	-6.1
Coosa County	Alabama	12,202	11,539	-663	-5.4
Covington County	Alabama	37,631	37,765	134	0.4
Crenshaw County	Alabama	13,665	13,906	241	1.8
Culman County	Alabama	77,483	80,406	2,923	3.8
Dale County	Alabama	49,129	50,251	1,122	2.3
Dallas County	Alabama	46,365	43,820	-2,545	-5.5
DeKalb County	Alabama	64,452	71,109	6,657	10.3
Elmore County	Alabama	66,874	79,303	13,429	20.4
Escambia County	Alabama	38,440	38,319	-121	-0.3
Etowah County	Alabama	103,459	104,430	971	0.9
Fayette County	Alabama	18,495	17,241	-1,254	-6.8
Franklin County	Alabama	31,223	31,704	481	1.5

## Centenarians: 2010



# Summary of Unresolved Challenges with Using the New Disclosure Avoidance Method – No solutions at this time

- Tabulating accurate counts and detailed demographic and housing characteristics for:
  - Detailed race and Hispanic origin groups
  - American Indian and Alaska Native tribes, Alaska Native villages, associations, communities, councils, and corporations
- Tabulating tables that require the linkage of data from the person and housing records (e.g., characteristics about children in households or about the householder)
- Tabulating accurate data for levels of geography beyond block, block group, tract, county, state, and nation (e.g., school districts, urban areas, and American Indian, Alaska Native, and Native Hawaiian Areas)
- Our intent is to provide as much of these data as possible while maintaining accuracy and privacy protection

# Unresolved Challenges – No solution at this time

Examples of demographic and housing characteristics for detailed race and Hispanic origin groups from the 2010 Summary File 2

## Median Age by Sex

Universe: Total population

Population group: Mexican alone

	United States
Median age--	
Both sexes	25.5
Male	25.4
Female	25.7

Source: Table PCT4, 2010 Census Summary File 2

## Household Size

Universe: Occupied housing units

Population group: Chinese alone or in any combination

	United States
Total:	1,282,850
1-person household	272,884
2-person household	368,133
3-person household	257,379
4-person household	223,488
5-person household	89,456
6-person household	41,365
7-or-more-person household	30,145

Source: Table HCT6, 2010 Census Summary File 2

# Unresolved Challenges – No solution at this time

Examples of demographic and housing characteristics for detailed American Indian and Alaska Native groups from the 2010 American Indian and Alaska Native Summary File

## Median Age by Sex

Universe: Total population

Population group: Blackfeet Tribe of the Blackfeet Indian Reservation of Montana alone

	United States
Median age--	
Both sexes	33.9
Male	33.3
Female	34.6

Source: Table PCT4, 2010 Census American Indian and Alaska Native Summary File

## Household Size

Universe: Occupied housing units

Population group: Tlingit-Haida tribal grouping alone or in any combination

	United States
Total:	8,130
1-person household	1,989
2-person household	2,397
3-person household	1,533
4-person household	1,124
5-person household	612
6-person household	279
7-or-more-person household	196

Source: Table HCT6, 2010 Census American Indian and Alaska Native Summary File

# Summary of Proposed 2020 Data Products

Proposed 2020 Data Product	Summary of Unresolved Challenges with Using the New Disclosure Avoidance Method – No solutions at this time
Apportionment Product	These files will be produced for the 2020 Census.
Redistricting File	
Demographic Profile	While we continue to draft individual tables, we are working to resolve challenges with tabulations for: <ul style="list-style-type: none"> <li>• Various levels of geography</li> <li>• Tables that require linking data from the person and housing unit files</li> <li>• Tabulations of characteristic/item allocation</li> </ul>
Demographic and Housing Characteristics File	
Congressional District Demographic and Housing Characteristics File	
Census Briefs	Data in these files are primarily dependent on the production of the files listed above.
Population and Housing Tables	
Special Reports	

# Summary of Proposed 2020 Data Products (cont.)

Proposed 2020 Data Product	Summary of Unresolved Challenges with Using the New Disclosure Avoidance Method – No solutions at this time
Products that include data for detailed race and Hispanic origin groups	We continue to internally research ways to create public data products similar to the 2010 Census that meet user needs yet maintain data confidentiality.
Products that include data for American Indian and Alaska Native groups	
Public Use Microdata Sample (PUMS) File	We continue to internally discuss the availability of a PUMS file for the 2020 Census.
Summary of Population and Housing Characteristics (CPH-1)	We are proposing not to publish these files in 2020. Data from these products will be available in other files.
Population and Housing Unit Counts Report Series (CPH-2)	

# 2020 Census Data Products Planning

- Spring – Fall 2019: Conduct outreach with stakeholders and collect feedback
- Proposed Release Timeline Similar to Previous Decades
  - Apportionment Product will be released for all states by December 31, 2020
  - Redistricting File will be released for all states by March 31, 2021
  - All other products, including Island Area Census data, will be released on a flow beginning Spring 2021



# Questions for NAC

- What are your critical needs for decennial census data and at what levels of geography?
- Do you have any suggestions for outreach and engagement about the 2020 data products with particular scientific, academic, or professional organizations?
- If we are able to produce detailed race, Hispanic origin, and AIAN data, but those data are inconsistent with the data for the major OMB categories included in other data products, is that an acceptable solution?
- Considering the changes and challenges discussed in this presentation what concerns do you have?